

## Daily Disposable Contact Lenses

### Lentes de descartediário

### *Lentes descartáveis diárias*

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#### ABSTRACT

The goal of this work is to supply ophthalmologists with information on daily disposable contact lenses. There are many benefits to daily disposable contact lenses, but these lenses may result in complications if not used correctly.

#### Keywords:

Contact Lenses

#### RESUMO

O objetivo deste trabalho é fornecer ao oftalmologista informações sobre Lentes de Contato de Descarte Diário. Pode-se enumerar várias qualidades do descarte diário das lentes, todavia elas podem causar complicações se não utilizadas corretamente.

#### Palavras-Chave:

Lentes de Contato

#### RESUMEN

El objetivo de este estudio es proporcionar información sobre las lentes de contacto oftalmólogos eliminación diaria. Uno puede enumerar varias cualidades de lentes desechables diarias, pero pueden causar complicaciones si no se utilizan correctamente.

#### Palabras Clave:

Lentes de Contacto

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In a time in which many people are on the lookout for more practical products that make their lives easier with fewer health risks, daily disposable contact lenses (CLs) are a viable option.

People choose disposable products for many reasons. In Japan, 83 patients who had changed from frequent replacement lenses to daily disposable lenses were interviewed to determine the reason for their choice<sup>1</sup>. The vast majority (95.7%) reported preferring daily disposable lenses because they were practical, 78.6% reported that the disposable lenses were more hygienic, 64.3% said they were more convenient for traveling, and 57.1% said to have chosen them because they involved less use of additional products and accessories. Some patients reported an improvement in ocular symptoms, an assertion that was, in fact, observed in this group's eye exams. There were fewer complaints of dry eye (from 30.1% to 18.1%) and of superficial punctate keratitis (from 26.5% to 9.6%)<sup>1</sup>.

The number of daily disposable CL prescriptions has also been increasing. In 2014, they represented 27.1% of adapted soft lens prescriptions in the United States<sup>2</sup>.

There are many benefits of daily disposable CLs:

- Lenses undergo physical changes over the course of their use. It is known that their diameters decrease as a result of eye temperature, a process that may affect their clinical performance<sup>3</sup>. When lenses are frequently replaced, all of these changes are minimized.

- Studies using optical coherence tomography (OCT) have shown<sup>4,5</sup> that variations in cornea parameters resulting from daily disposable CL use are very mild. Changes in thickness and the central curvature of the cornea were not enough to cause visual symptoms<sup>4</sup>, however, lacrimal meniscus volume was significantly lower, which may cause dry eye symptoms<sup>5</sup>. In an analysis of 1171 daily disposable CL wearers, there was a significantly lower incidence of superficial punctate keratitis compared with the frequency reported among extended lens wearers<sup>6</sup>.

- Daily disposable lenses are thinner because of their greater oxygenation. In addition, vision is improved because the lenses are better able to adhere to the eye, thus preventing undesired rotations particularly in the case of toric lenses<sup>7</sup>.

- There are many brands and styles of daily disposable CLs.

- When new lenses are used each day, impurities do not build up. This results in more comfort for the CL wearer<sup>8</sup>.

- CL infections still exist, despite the availability of disinfectant solutions. Mela et al<sup>9</sup> isolated fungi from 10.2% of 117 CL cases used to store soft lenses. Daily disposable lenses eliminate the need for a sanitation routine and provide patients with both a few extra minutes a day and a sterile lens every day.

- They are useful in certain situations such as social events and while playing sports. There are also occasions that require more practicality, such as vacations, days at the beach, and involvement in water sports. There are reports that, after the holidays and long weekends, there is an increase in cases of eye infections caused by the improper use of CLs<sup>10</sup>.

- Daily disposable CLs are an excellent substitute for glasses among children and adolescents. In a study on the quality of life among teenagers requiring corrective lenses, CL wearers were found to have a higher quality of life than glasses wearers<sup>11</sup>.

Even with these benefits, daily disposable contact lenses may cause complications if not used correctly. When users insist upon using the lenses for longer periods than recommended, these same benefits have the possibility of becoming problems<sup>12</sup>.

Technology works to prioritize health and convenience, but even these lenses require a proper consultation with an ophthalmologist and adequate guidance regarding their correct use.

## REFERENCES

1 ↑↑ Ichijima H, Karino S, Sakata H, Cavanagh HD. Improvement of Subjective Symptoms and Eye Complications When Changing From 2-Week Frequent Replacement to Daily Disposable Contact Lenses in a Subscriber Membership System. *Eye Contact Lens*. 2015 May 19. <http://dx.doi.org/10.1097/ICL.000000000000167>.

2 ↑ Efron N, Nichols JJ, Woods CA, Morgan PB. Trends in US ContactLensPrescribing 2002 to 2014. *Optom Vis Sci*. 2015 Jul;92(7):758-67. <http://dx.doi.org/10.1097/OPX.0000000000000623>.

3 ↑ Young G, Potts M, Sulley A. The Effect of Temperature on Soft Contact Lens Diameter. *EyeContactLens*. 2015 Oct 27. <http://dx.doi.org/10.1097/ICL.0000000000000202>.

4 ↑↑ Del Águila-Carrasco AJ, Domínguez-Vicent A, Pérez-Vives C, Ferrer-Blasco T, Montés-Micó R. Assessment of modifications in thickness, curvatures, and volume up on the cornea caused by disposable soft contact lens wear. *Eur J Ophthalmol*. 2015 Sep-Oct;25(5):385-90. <http://dx.doi.org/10.5301/ejo.5000592>.

- 5 ↑↑ Del Águila-Carrasco AJ, Ferrer-Blasco T, García-Lázaro S, Esteve-Taboada JJ, Montés-Micó R. Assessment of corneal thickness and tear meniscus during contact-lens wear. *Cont Lens Anterior Eye*. 2015 Jun;38(3):185-93. <http://dx.doi.org/10.1016/j.clae.2015.01.010>.
- 6 ↑ Chalmers RL, Hickson-Curran SB, Keay L, Gleason WJ, Albright R. Rates of adverse events with hydrogel and silicone hydrogel daily disposable lenses in a large post market surveillance registry: the TEMPO Registry. *Invest Ophthalmol Vis Sci*. 2015 Jan 8;56(1):654-63. <http://dx.doi.org/10.1167/iov.14-15582>.
- 7 ↑ Lira M, Pereira C, Real Oliveira ME, Castanheira EM. Importance of contact lens power and thickness in oxygen transmissibility. *Cont Lens Anterior Eye*. 2015 Apr;38(2):120-6. <http://dx.doi.org/10.1016/j.clae.2014.12.002>.
- 8 ↑ Fahmy M, Long B, Giles T, Wang CH. Comfort-enhanced daily disposable contact lens reduces symptoms among weekly/monthly wear patients. *EyeContactLens*. 2010 Jul;36(4):215-9. <http://dx.doi.org/10.1097/ICL.0b013e3181e5859f>.
- 9 ↑ Mela EK, Anastassiou ED, Gartaganis SP, Christofidou M. Fungal isolation from disinfectants solutions of contact lens storage cases among a symptomatic users. *EyeContactLens*. 2015 Mar;41(2):87-90. <http://dx.doi.org/10.1097/ICL.000000000000069>.
- 10 ↑ Neves R. (<http://zh.clicrbs.com.br/rs/vida-e-estilo/vida/noticia/2013/09/uso-prolongado-de-lentes-de-contato-causa-danos-a-saude-dos-olhos-4265350.html>) 2013.
- 11 ↑ Plowright AJ, Maldonado-Codina C, Howarth GF, Kern J, Morgan PB. Daily disposable contact lenses versus spectacles in teenagers. *Optom Vis Sci*. 2015 Jan;92(1):44-52. <http://dx.doi.org/10.1097/OPX.0000000000000454>.
- 12 ↑ Dumbleton KA, Richter D, Woods CA, Aakre BM, Plowright A, Morgan PB, Jones LW. A multi-country assessment of compliance with daily disposable contact lens wear. *Cont Lens Anterior Eye*. 2013 Dec;36(6):304-12. <http://dx.doi.org/10.1016/j.clae.2013.05.004>.



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